

REMARKS

Claim Rejections

Claims 1-2 and 4-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robb et al. (US 6,931,503 B1) in view of Ruff et al. (US 5,706,472). Claims 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robb et al. (US 6,931,503 B1) and Ruff et al. and further in view of Yamamoto et al. (US 6,532,513 B1).

Amendments to Specification

Applicant has amended the Specification as noted above to provide proper antecedent basis in the specification for the term "platter of." It is believed that the foregoing amendments to the Specification overcome the outstanding objections thereto. No "new matter" has been added to the original disclosure by the foregoing amendments to the Specification.

Drawings

It is noted that the Examiner has accepted the drawings as originally filed with this application.

Claim Amendments

By this Amendment, Applicant has amended claim 1. It is believed that the amended claims specifically sets forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

Applicant's claims, as amended, are directed toward a method for data security with lock in a hard disk and a solid state disk, comprising following steps: partitioning a platter of a disk drive into a plurality of disk zones; including a user zone and at least one zone selected from a group consisting of a ROM zone and a protect zone; providing a plurality of registers for indicating a record of a size of each of the plurality of disk zones; utilizing a mathematical operation for treating a user

input data and a register data; and assigning one of two ***different passwords*** to each of the ROM zone and the protect zone utilizing a password operation mode utilizing the mathematical operation with the user input data and the register data, ***wherein the user zone is configured to allow a user to execute all ATA commands and the protect zone is configured to prevent a user from reading or writing.***

The primary reference to Robb et al. teaches a hard disk drive 1 having one or more platters 2 mounted on a spindle motor drive mechanism located on a printed circuit board assembly 3 (PCBA). As shown in Figure 1 and described in col. 7, ll.17-55, the PCBA 3 has a RAM chip 5 and a ROM chip 4, which contains firmware to control the operation of the drive. It is important to note that the “zones” cited by the Examiner from Robb et al. are not zones on the platter 2 of the disk drive, but rather are separate chips which are programmed with firmware and mounted on the PCBA 3 underlying the platter 2.

Furthermore, Robb et al.’s Fig. 2 (cited by the Examiner’s as teaching Applicant’s “protected mode”) teaches that Robb et al.’s protected mode allows a supervisor to access a list of dormant partitions; it does not restrict both reading and writing of the protected partition. In addition, it is important to note that Robb et al. do not teach different passwords for a ROM zone and a protect zone. Instead, the reference in Col. 9, l. 60- Col. 10, l. 12 teaches a password which allows a user to enter an “unprotected” zone. This password can be entered twice to allow a change to a new password, but the user is still gaining access to only the “unprotected zone.” As admitted by the Examiner, Robb et al. also fails to teach the size of the plurality of disks.

Robb et al. do not teach: a method for data security with lock in a hard disk and a solid state disk, comprising following steps: partitioning a platter of a disk drive into a plurality of disk zones; including a user zone and at least one zone selected from a group consisting of a ROM zone and a protect zone; providing a plurality of registers for indicating a record of a size of each of the plurality of disk zones; utilizing a mathematical operation for treating a user input data and a register data; and assigning one of two different passwords to each of the ROM zone and the protect zone utilizing a password operation mode utilizing the mathematical

operation with the user input data and the register data, wherein the user zone is configured to allow a user to execute all ATA commands and the protect zone is configured to prevent a user from reading or writing.

The secondary reference to Ruff et al. is cited as teaching a partitioning a platter of a disk in to a plurality of disk zones. However, Applicant does not believe that Ruff et al. teaches: a method for data security with lock in a hard disk and a solid state disk, comprising following steps: partitioning a platter of a disk drive into a plurality of disk zones; including a user zone and at least one zone selected from a group consisting of a ROM zone and a protect zone; providing a plurality of registers for indicating a record of a size of each of the plurality of disk zones; utilizing a mathematical operation for treating a user input data and a register data; and assigning one of two different passwords to each of the ROM zone and the protect zone utilizing a password operation mode utilizing the mathematical operation with the user input data and the register data, wherein the user zone is configured to allow a user to execute all ATA commands and the protect zone is configured to prevent a user from reading or writing.

The secondary reference to Yamamoto et al. is cited as teaching a plurality of registers for indicating a record of a size of each of the plurality of disk zones. The cited text from Yamamoto et al., col. 12, l. 54- col. 13, l. 15, does not teach anything about partitioning a disk drive platter into a user zone in combination with a protect zone and/or a ROM zone.

Yamamoto et al. do not teach a method for data security with lock in a hard disk and a solid state disk, comprising following steps: partitioning a platter of a disk drive into a plurality of disk zones; including a user zone and at least one zone selected from a group consisting of a ROM zone and a protect zone; providing a plurality of registers for indicating a record of a size of each of the plurality of disk zones; utilizing a mathematical operation for treating a user input data and a register data; and assigning one of two different passwords to each of the ROM zone and the protect zone utilizing a password operation mode utilizing the mathematical operation with the user input data and the register data, wherein the user zone is configured to allow a user to execute all ATA commands and the protect zone is configured to prevent a user from reading or writing.

Even if the teachings of Robb et al., Ruff et al. and Yamamoto et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: a method for data security with lock in a hard disk and a solid state disk, comprising following steps: partitioning a platter of a disk drive into a plurality of disk zones; including a user zone and at least one zone selected from a group consisting of a ROM zone and a protect zone; providing a plurality of registers for indicating a record of a size of each of the plurality of disk zones; utilizing a mathematical operation for treating a user input data and a register data; and assigning one of two different passwords to each of the ROM zone and the protect zone utilizing a password operation mode utilizing the mathematical operation with the user input data and the register data, wherein the user zone is configured to allow a user to execute all ATA commands and the protect zone is configured to prevent a user from reading or writing.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Robb et al., Ruff et al., or Yamamoto et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Robb et al., Ruff et al., nor Yamamoto et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby

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respectfully submits that no combination of the cited prior art renders obvious Applicant's amended claims.


Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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